



United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
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In Reply Refer To:
2014-I-0475

Mr. Matt Marsh
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Mr. Will Meeks, PhD
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Dear Mr. Marsh and Dr. Meeks:

This is in response to your May 18, 2015, letter of request for concurrence with the effects analysis and determinations for 36 federally-listed, candidate, or proposed species pursuant to the Endangered Species Act as amended (16 U.S.C. 1531 et seq.) (Act). The Western Area Power Administration (Western), Upper Great Plains Regional Office (UGP) and the Refuge Division (Refuges) of the U.S. Fish and Wildlife Service (Service) are co-leads for the proposed Upper Great Plains Region Wind Energy Programmatic consultation framework (Program). This action was developed pursuant to the National Environmental Policy Act (NEPA, Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended) and resulted in the release of a Final Programmatic Environmental Impact Statement on May 1, 2015 (80 FR 24914). Your letter of request and accompanying Programmatic Biological Assessment (PBA) were received on May 18, 2015.

The proposed federal action establishes a federal programmatic review process for developers of wind energy projects that request interconnection agreements with Western in order to gain access to transmission facilities operated by Western and/or request placement of project facilities on easements managed by the Service which would require an easement exchange to accommodate a wind energy project. The overall goal of the Program is to pre-emptively identify location and operational criteria for wind energy projects within the UGP wherein the environmental impacts are anticipated to be insignificant and then to streamline the

environmental review process to ensure a high quality, expedited review. To this end, the Program, as described in the PBA, establishes evaluation criteria for the federal interconnection and easement exchange actions within a governance framework to ensure the consultation requirements under section 7(a)(2) of the Act are met. Accordingly, Western and Refuges have requested concurrence with the effects determinations for 24 listed species, 6 designated critical habitats, and conference concurrence for effects determinations on 4 candidate species and 2 proposed critical habitats.

Western and Refuges requested voluntary informal conferencing on all potentially affected candidate and proposed species by letter dated April 7, 2014, and the Service agreed to conferencing by letter dated May 22, 2014. Service policy is to consider candidate species in all intra-Service consultations and to treat them as if they are proposed for listing for purposes of conducting internal Service conferencing. In similar manner, Western's policy is to treat candidate and proposed species as if they were listed species for analysis of effects and effects determinations when informal consultations are undertaken pursuant to the Act. Thus, the evaluation of impacts and the determination of effects on all 30 resources addressed in the PBA utilize the threshold for listed species as the basis for the analysis and determinations. With this voluntary approach, the PBA suffices as conferencing under the Act for the candidate and proposed species.

Species evaluated in the PBA and the effects determinations are summarized below.

<u>Species/Critical Habitat</u>	<u>Status</u>	<u>Determination</u>
<u>Plants</u>		
Eastern Prairie Fringed Orchid (<i>Platanthera leucophaea</i>)	Threatened	MA, NLAA*
Mead's Milkweed (<i>Asclepias meadii</i>)	Threatened	MA, NLAA
Prairie Bush Clover (<i>Lespedeza leptostachya</i>)	Threatened	MA, NLAA
Ute Ladies'-Tresses (<i>Spiranthes diluvialis</i>)	Threatened	MA, NLAA
Western Prairie Fringed Orchid (<i>Platanthera praeciara</i>)	Threatened	MA, NLAA
Whitebark Pine (<i>Pinus albicaulis</i>)	Candidate	No effect
<u>Invertebrates</u>		
American Burying Beetle (<i>Nicrophorus americanus</i>)	Endangered	MA, NLAA
Dakota Skipper (<i>Hesperia dacotae</i>)	Threatened	MA, NLAA
Dakota Skipper Critical Habitat	Proposed	No effect
Higgins Eye (<i>Lampsilis higginsii</i>)	Endangered	No effect
Poweshiek Skipperling (<i>Oarisma poweshiek</i>)	Endangered	MA, NLAA
Poweshiek Skipperling Critical Habitat	Proposed	No effect
Salt Creek Tiger Beetle (<i>Cicindela nevadica lincolniiana</i>)	Endangered	MA, NLAA
Salt Creek Tiger Beetle Critical Habitat	Designated	No effect
Scaleshell Mussel (<i>Leptodea leptodon</i>)	Endangered	No effect

Fish

Bull Trout (<i>Salvelinus confluentus</i>)	Threatened	MA, NLAA
Bull Trout Critical Habitat	Designated	No effect
Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	Endangered	No effect
Topeka Shiner (<i>Notropis topeka</i>)	Endangered	MA, NLAA
Topeka Shiner Critical Habitat	Designated	No effect

Reptiles

Eastern Massasauga Rattlesnake (<i>Sistrurus catenatus catenatus</i>)	Candidate	MA, NLAA
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Birds

Greater Sage-Grouse (<i>Centrocercus urophasianus</i>)	Candidate	MA, NLAA
Interior Least Tern (<i>Sterna antillarum</i>)	Endangered	MA, NLAA
Piping Plover (<i>Charadrius melodus</i>)	Threatened	MA, NLAA
Piping Plover Critical Habitat	Designated	No effect
Sprague's Pipit (<i>Anthus spragueii</i>)	Candidate	MA, NLAA
Whooping Crane (<i>Grus americana</i>)	Endangered	MA, NLAA
Whooping Crane Critical Habitat	Designated	No effect
Rufa Red Knot (<i>Calidris canutus rufa</i>)	Threatened	MA, NLAA

Mammals

Black-footed Ferret (<i>Mustela nigripes</i>)	Endangered	MA, NLAA
Canada Lynx (<i>Lynx canadensis</i>)	Threatened	MA, NLAA
Canada Lynx Critical Habitat	Designated	No effect
Gray Wolf (<i>Canis lupus</i>)	Threatened	MA, NLAA
Grizzly Bear (<i>Ursus arctos horribilis</i>)	Threatened	MA, NLAA
Indiana Bat (<i>Myotis sodalists</i>)	Endangered	MA, NLAA
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened	MA, NLAA

*MA, NLAA = May affect, but is not likely to adversely affect

The PBA was jointly developed by Western and the Service to establish siting and operational criteria with the goal to avoid or minimize exposure of the above federally-listed resources to wind energy developments. Making these spatial and operational criteria available to wind energy companies at a landscape scale and in advance of a prospective wind energy development is expected provide an effective means for companies to gauge the overall risk and potential cost associated conservation measures aimed to benefit threatened and endangered species before siting decisions and associated financial commitments are made. The environmental review procedures and evaluation criteria were developed to ensure that the effects of federal agency decisions to federally-listed resources are discountable or insignificant.

To achieve either of these outcomes, the Program is designed to facilitate a risk-based approach to wildlife and other environmental resources for wind energy developer's that is consistent with the tiered approach identified in the voluntary 2012 U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines as cited in the PBA. The Program emphasizes early coordination with

the Service through “preconstruction evaluations and/or surveys” during Tiers I, II, and III of the Guidelines. Through this coordination, the project proponent, the lead federal agency, and the Service will have the opportunity to weigh whether or not to abandon the site or proceed based upon the best available information, the fish and wildlife occurrence and trend data, the suitability of potentially affected habitats, and the anticipated adequacy of mitigation to ensure the effects to listed, candidate, or proposed species and designated critical habitat will not result in significant adverse impacts. This early coordination may also serve to inform the design of pre- and post-construction survey protocols within a given wind resource area. As stated in the PBA, the avoidance of significant adverse impacts is the primary conservation objective of the proposed Program.

Use of the programmatic consultation and acceptance of the criteria in the programmatic PBA is voluntary on the part of developers. If a project proponent is either unable or unwilling to implement the Best Management Practices (BMPs) and/or the conservation measures designed to avoid or minimize effects, the developer will have the opportunity to seek approval from the responsible federal agency outside of the Program, which presumably would trigger an individual project-specific NEPA analysis and Section 7 consultation.

The BMPs, summarized in Table 4.5-1 of the PBA, are required for those species that may occur in a prospective project area and could be affected by the construction and/or operation of a wind energy development. This requirement is to ensure that project effects do not exceed expected impact levels. Several important requirements include: preconstruction evaluations and/or surveys based on early coordination with the Service to document the occurrence and avoidance of species or their habitats; a minimum of 1-year post-construction mortality monitoring during the bird and bat migration season; marking of new overhead transmission lines where warranted; and use of free-standing meteorological towers, but where this is impracticable, installation of approved bird flight diverters on guy wires of guyed meteorological towers.

The conservation measures contain two primary objectives – avoidance of species and the habitat upon which they depend and minimizing the strike risk of avian and bat species with wind turbines or ancillary facilities. With these objectives of the early stages of siting and planning, the PBA included an analysis describing the potential impacts utilizing a risk-based rationale including the identification of circumstances that trigger the need for conservation measures to support the determinations of “no effect” or “may affect, but is not likely to adversely affect” for each listed resource that may be affected.

In accordance with section 7 of the Act, Western and Refuges have requested Service concurrence with the determinations that the above-mentioned federal action “may affect, is not likely to adversely affect” the species identified in the table above. Based upon the proposed Program as described in the May 2015 PBA, the Service has concluded the effects of the Program to federally-listed resources are either discountable or insignificant. Thus, the Service **concurs** with the above determinations. We also have concluded the potential effects of the Program to proposed and candidate species are either insignificant or discountable and therefore we **concur** with your “may affect, not likely to adversely affect” conference determinations. The

potential impacts, species-specific or critical habitat avoidance and minimization measures, and the rationale for our concurrence with the effects determinations for listed, proposed, and candidate resources, as summarized in Table 5-1 of the PBA, are discussed in the sections that follow.

Plants (Eastern Prairie Fringed Orchid, Mead’s Milkweed, Prairie Bush Clover, Ute Ladies’-Tresses, Western Prairie Fringed Orchid, Whitebark Pine)

Of the six plant species addressed in the PBA, the eastern prairie fringed orchid, Mead’s milkweed, prairie bush clover, and western prairie fringed orchid are all associated with specific types of remnant prairie habitat in the UGP, whereas the Ute ladies’-tresses is found along riparian edges in southwestern Montana and the whitebark pine is found within high-elevation montane forests in central and western Montana. The primary threat to these plants from wind energy is direct loss of the plants and their specific habitats. Wind development would not be precluded in prairie habitat per se, but protection to the plants would require avoidance of portions of the habitat occupied by the plants. Based on results of pre-construction evaluations with the Service and/or surveys for the identification of suitable or occupied habitat, developers that voluntarily choose to use the Programmatic consultation cannot site turbines, access roads, or other project facilities in occupied habitats of any of these species. Furthermore, for the four prairie species and one riparian species, 100-ft buffer zones are required around specific plant locations and the use of herbicides is restricted within this zone to provide additional assurance that adverse effects will be avoided. Development would not be allowed in any montane habitat occupied by the whitebark pine.

Thus, with implementation of the BMPs and the species-specific avoidance and minimization measures, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the eastern prairie fringed orchid, Mead’s milkweed, prairie bush clover, western prairie fringed orchid, and Ute ladies’-tresses and will have “no effect” on the whitebark pine. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the eastern prairie fringed orchid, Mead’s milkweed, prairie bush clover, western prairie fringed orchid, and Ute ladies’-tresses are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determinations.

Invertebrates (American Burying Beetle, Dakota Skipper and Proposed Critical Habitat, Higgins Eye, Poweshiek Skipperling and Proposed Critical Habitat, Salt Creek Tiger Beetle and Designated Critical Habitat, Scaleshell Mussel)

American Burying Beetle; Salt Creek Tiger Beetle and Designated Critical Habitat

Two beetles were addressed in the Programmatic BA. The American burying beetle is found in relatively sandy grasslands in northern Nebraska and south-central South Dakota while the Salt Creek tiger beetle has much more specific habitat requirements and is more restricted to saline wetlands and stream complexes in the Salt Creek and Rock Creek watersheds of Nebraska. The

primary threat to the American burying beetle is from direct habitat loss (e.g., grassland conversion, soil compaction) and direct mortality associated with construction activities (roads, turbines, etc.) Flooding and sediment deposition along drainages occupied by the Salt Creek tiger beetle can cause significant mortality to the species. If the pre-construction evaluations with the Service identify the need to survey for the American burying beetle, a permit is required from the Service because of the potential of “take” during the survey work. To avoid impacts to this beetle, the PBA states that no project facilities can be sited in occupied habitats. For the Salt Creek tiger beetle, the PBA avoidance measures do not allow any siting of project facilities within 1 mi of occupied saline wetland and stream complexes or designated critical habitat. To further minimize impacts to the American burying beetle from projects that encompass or are near occupied habitat, minimization measures are included to avoid use of herbicides or pesticides in areas specifically identified by the Service. These same restrictions also are applicable to saline wetlands and stream complexes in the Rock Creek and Salt Creek watersheds occupied by the Salt Creek tiger beetle. Developers also can not alter existing surface water flows that might alter existing saline wetland habitats in these watersheds.

Thus, with implementation of the BMPs and the species-specific avoidance and minimization measures, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the American burying beetle and the Salt Creek tiger beetle, and will have “no effect” on designated critical habitat of the Salt Creek tiger beetle. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the American burying beetle and the Salt Creek tiger beetle are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determinations.

Dakota Skipper, Poweshiek Skipperling, and Proposed Critical Habitat for both species

Two butterflies, Dakota skipper and the Poweshiek skipperling, were originally proposed for listing during the development of the PBA, and later officially listed as threatened and endangered, respectively, and their proposed critical habitats were addressed in the PBA. The Dakota skipper and the Poweshiek skipperling are associated with grassland and native prairie habitats that are dwindling and becoming more fragmented. Wind energy development may exacerbate the loss of habitat further and cause direct mortality to eggs, larvae, or pupae during construction phases. Application of pesticides and herbicides also pose a risk to the butterflies.

To address these concerns, the PBA includes several avoidance measures that preclude siting of any project facilities in: (1) occupied habitat, or (2) suitable habitat within 0.6 mi of occupied habitat, or (3) proposed critical habitat or within a 0.6 mi buffer of that habitat. The 0.6 mi buffer is based on the best available information, primarily on the expert opinions of biologists and other researchers, suggesting that these butterflies may disperse this distance from occupied habitat and that protection of these areas are important to the conservation of the species. For projects that encompass suitable, but unoccupied, habitat farther than 0.6 mi from occupied habitat, minimization measures were included in the PBA to obtain a grassland easement offsite of comparable sized native prairie with obligate plant species to offset the loss of suitable habitat.

Pesticide and herbicide restrictions, as discussed with the plant species above, were also included as minimization measures.

Thus, with implementation of the BMPs and the species-specific avoidance and minimization measures, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the Dakota skipper and the Poweshiek skipperling, and will have “no effect” on proposed critical habitat for these two species. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the Dakota skipper and the Poweshiek skipperling are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determinations.

Higgins Eye and Scaleshell Mussel

Two species of mussels, the Higgins eye and scaleshell, are addressed in the PBA. Only a few specimens each of the Higgins eye mussel and the scaleshell mussel have been reported within the UGP Region and both were found in the Missouri River system below the Gavins Point Dam. Impacts, either direct or indirect, to these species are not expected from wind energy because development will not occur in or adjacent to the Missouri River because avoidance and minimization measures from multiple species, including these two mussels, preclude siting in their habitats. The PBA states that turbines, access roads, transmission line towers, or other project facilities cannot be sited in aquatic habitat where these two mussels may be present. Consequently, Western and Refuges have determined that implementation of the proposed action will have “no effect” on the Higgins eye and scaleshell mussel.

Fish (Bull Trout and Designated Critical Habitat, Pallid Sturgeon, Topeka Shiner and Designated Critical Habitat)

Aquatic fish species are the least likely group of species to be directly impacted by wind energy development in the UGP Region because the likelihood of placing wind facilities directly in aquatic or riparian habitat is low. The potential for indirect impacts is greater and could occur from consumptive water use, altered stream flow, erosion and sedimentation of streams, uncontrolled use of herbicides and pesticides, and stream crossings. However, through proper planning, siting, and operations, all of these threats can be adequately addressed. Except for minor modification of some measures and the addition of several new measures for the Topeka shiner, the avoidance and minimization measures for all fish species are quite similar.

For each of the fish species, specific measures were identified to avoid or provide a buffer around occupied habitat identified through the pre-construction evaluations and/or surveys. Per the recommendation of species experts as noted in the PBA, the Program requires that project facilities cannot be sited within 300 ft of aquatic habitat occupied by the bull trout or designated critical habitat for the bull trout. Species experts also believe that measures to control erosion, sedimentation, and consider impacts of stream crossing configuration on the bull trout are very important in avoiding impacts. Therefore, the avoidance measures for the bull trout also

specifically include provisions for sediment control and do not allow crossing of occupied streams or bull trout designated critical habitat with any wind energy facilities.

No specific buffer zones have been identified for the pallid sturgeon or the Topeka shiner. However, the PBA states that no project facilities can be sited in or adjacent to aquatic habitat where the pallid sturgeon (Missouri River system and major tributaries), Topeka shiner (small prairie rivers and associated riparian habitats in South Dakota, Minnesota, Nebraska, and Iowa), or designated critical habitat for the Topeka shiner occurs. Similar to the survey protocol for the American burying beetle, any surveys to determine occurrence of the Topeka shiner require a permit from the Service.

Additional minimization measures to further address impacts to the fish species and their aquatic habitats were identified in the PBA. Four minimization measures pertinent to all four species addressed: (1) BMPs for erosion control, (2) restrictions for the use of herbicides and pesticides according to labels and within 300 ft of occupied aquatic habitat of the bull trout, and designated critical habitat for the bull trout, (3) minimizing stream habitat disturbance from crossings (e.g., buried lines or spanning), and (4) avoiding alteration of surface water flows. Based on experience with other projects and impacts to the Topeka shiner, additional minimization measures were identified for this species to ensure fish passage and minimize adverse hydrological effects to groundwater and off-channel habitats. Regardless of the best engineering design for culvert placement in small prairie streams, species experts have found that with changing hydrology “take” of the Topeka shiner can still occur. Therefore, minimization measures were included in the PBA to ensure fish passage by requiring crossings to span the stream, thus eliminating instream structures and work.

Thus, based on the rationale summarized above, and with implementation of the BMPs and the species-specific avoidance and minimization measures, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the bull trout, and the Topeka shiner and will have “no effect” on the pallid sturgeon and designated critical habitat of the bull trout and Topeka shiner. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the bull trout, and the Topeka shiner are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determinations.

Reptiles (Eastern Massasauga Rattlesnake)

The Eastern massasauga rattlesnake is the only reptile considered in the PBA. This snake is associated with wet prairie habitat, marshes, and lowland areas along streams or rivers. In the UGP Region, the Eastern massasauga rattlesnake has been reported to occur in two counties in Iowa and possibly six counties in Nebraska (and these may be the Western massasauga), but no predicted suitable habitat is located within 25 mi of any Western substation. The primary threat to the snake from wind energy projects would be the loss of habitat from ground-breaking and construction activities, as well as direct mortality resulting from vehicle collisions.

The key to eliminating these threats to the Eastern massasauga rattlesnake is to avoid occupied habitat. Thus, the PBA states that turbines, access roads, transmission line towers, or any project facility cannot be sited in occupied habitat of the rattlesnake. Furthermore, for projects that encompass or are near occupied habitat: (1) habitat disturbance must be minimized in suitable mesic habitat, (2) connectivity between parcels of suitable habitat must be maintained, and (3) strategies must be identified and implemented to reduce the potential for road mortality on access roads.

Thus, with implementation of the BMPs and the species-specific avoidance and minimization measures, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the Eastern massasauga rattlesnake. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the Eastern massasauga rattlesnake are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” conference determination.

Birds (Greater Sage-Grouse, Interior Least Tern, Piping Plover and Designated Critical Habitat, Sprague’s Pipit, Whooping Crane and Designated Critical Habitat, Rufa Red Knot

Although avoidance of suitable or occupied habitat for threatened and endangered birds is a major factor in preventing “take” of a species from wind energy development, birds in general also require considerations relative to migrations and potential collisions with turbines, meteorological towers, or associated transmission lines. The migration issue is not pertinent to the greater sage-grouse; however, this species has its own unique considerations that several western states and the federal government are currently addressing.

Greater Sage-Grouse

Studies throughout the range of the greater sage-grouse in the western United States indicate that populations are suffering declines primarily due to habitat (primarily big sagebrush) loss and fragmentation, over grazing of rangelands, predation, disease, energy development (oil and gas, wind, and coal bed methane), and small, isolated populations (in North Dakota). In an attempt to avoid further impacts to the current status of the species, 11 states, including Montana, North and South Dakota within the UGP have identified Sage-grouse Core or Priority Habitat Areas and connectivity areas deserving of special protective management strategies.

Infrastructure associated with wind energy development can have a measureable negative direct effect on sage-grouse that may include habitat loss, behavioral avoidance during breeding periods, and direct mortality. Sage-grouse can be non-migratory, or migratory between breeding, brood-rearing, and/or winter habitats, but tend to fly during daylight hours, at very low levels, and with frequent stopovers within their sage brush habitats. These habits are generally expected to reduce the potential for sage-grouse collisions because the wind towers and turbines are presumably detectable by the species. However, they are likely to be adversely affected by access roads, loss of habitat and fragmentation, human disturbance, displacement of leks and

reduced reproductive capability, and collisions with meteorological towers or guy wires, low-level distribution lines, or fences.

Based on these factors and cumulative scientific findings, the avoidance measures in the PBA emphasize that turbines, access roads, transmission lines, or other project facilities cannot be sited within general or priority habitat in North and South Dakota nor in core/priority habitat Montana. Within Montana, this avoidance restriction also applies to the state-designated connectivity areas, which includes a designated 149-mi long migration corridor between seasonal habitats in Canada and Montana. Avoidance of sage-grouse core and connectivity areas is expected to help maintain large and intact landscapes for the species.

The remainder of occupied sage-grouse habitat in Montana outside of the core or connectivity areas will be subject to a number of measures to further minimize adverse effects on sage-grouse populations. These measures were adopted from several documents cited in the PBA, including the Management Plan and Conservation Strategies for Sage Grouse in Montana, the Greater Sage-Grouse Habitat Conservation Strategy, and the Service's Greater Sage-Grouse Conservation Objectives Final Report. Most importantly, activities and infrastructure associated with wind generation development (i.e., no siting of turbines, access roads, transmission lines, or other project facilities) will not be allowed within 4 mi of the perimeter of active greater sage-grouse leks. In some cases, measures also will address currently existing threats by marking existing guy wires or fences or totally removing fences. Conservation Measures for the sage-grouse are summarized as follows:

- Coordinate with the Statewide Habitat Coordinator in Montana regarding siting to avoid sage-grouse habitat.
- Avoid meteorological towers and turbines, and restrict surface use activities within 4 mi of active leks.
- Do not use guy wires to support meteorological towers, and mark existing guy wires with approved bird flight diverters.
- Do not build new fences within 1.25 mi of occupied leks, but if unavoidable, fences must be marked with approved bird flight diverters. Remove or mark existing fences.
- Areas disturbed by construction activities in areas used by sage-grouse should be managed to improve nest success.
- Limit access roads to decrease fragmentation of habitat.
- Limit noise at active lek perimeters to 10 db above ambient or maximum of 34 db.
- Bury all project related collector or distribution lines, but otherwise do not place overhead power lines in suitable habitat within 4 mi of a known lek.
- Mark new overhead power lines within 0.25 mi of occupied habitat with approved bird flight diverters.
- Report all incidents of mortality to the Service and Montana Fish, Wildlife, and Parks.

By incorporation of the BMPs, avoiding development within sage-grouse core habitat and connectivity areas and, with the implementation of the additional minimization measures for suitable habitat areas outside core habitat and connectivity areas in Montana, Western and Refuges have determined that implementation of the proposed action may affect, but is not likely to adversely affect, the greater sage-grouse. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the greater sage-grouse are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” conference determination.

Interior Least Tern, Piping Plover, and Piping Plover Designated Critical Habitat

The least tern and piping plover are two small migratory shorebirds that are associated with relatively unvegetated sandbars, islands and reservoir shorelines of the Missouri River system (including the major reservoirs on the system, and the Niobrara River), sandbars of the Yellowstone River and sandbars and off-river sand pits of the Platte River system (including the Loup and Elkhorn rivers). The piping plover also utilizes alkali wetlands and lakes in the Prairie Coteau region of northeast Montana and northwest North Dakota. Major portions of the Missouri River system from Fort Peck Reservoir south to Ponca State Park in Nebraska, including the reservoirs, and a number of alkali wetlands in the Coteau have been designated as critical habitat.

Researchers report that most movements in the river systems are within the river corridors. Thus, most direct impacts to least terns and piping plovers using riverine, reservoir, and adjacent sand pit habitats are easily avoided by the use of buffer zones around these habitats. The risk of bird strikes associated with migration and off-river flights for either species is not well understood. Based on the current knowledge of flight behavior within river corridors and reservoir systems, migration altitudes, and the absence of documented mortality, as summarized in Chapters 5.5.2 (interior least tern) and 5.5.3 (piping plover) of the PBA, a 1.5-mi “no-build” buffer encompassing these habitats was determined to be adequate to protect both species using these habitats.

Therefore, avoidance measures were established as part of the proposed action to protect least terns and piping plovers and the habitat they depend upon on the Missouri, Yellowstone, and Platte River systems. For the Missouri and Yellowstone systems, the PBA states that turbines, access roads, transmission lines, or any project facilities could not be sited within the floodplains or any closer than 1.5 mi of known suitable sandbar and reservoir shorelines with nesting, resting, or foraging areas. For the Platte River corridor, protection was expanded to also include exclusions within 1.5 mi of known nesting, resting, and foraging areas associated with sand pits.

Protection of piping plovers and alkali wetlands and lakes within the Prairie Coteau is more challenging because of the widespread nature of the wetlands, wetland complexes, and lack of definitive data on the movements and dispersal patterns of piping plovers between alkali lakes and the Missouri River or reservoirs. Researchers have found that most shorebirds making

flights between foraging sites and roosting sites fly remarkably close to the ground, often barely skimming over the habitat surface. During migration they tend to fly at an altitude of 1000 ft or higher. To date, no plover mortality has been documented from wind turbine facilities in the UGP Region.

In light of the uncertainties related to piping plover movements, important alkali wetlands with documented piping plover nesting, designated critical habitats, and potential buffer zones for the alkali wetlands within the Prairie Coteau Region of North Dakota and northeast Montana were analyzed with geo-spatial data in a desk top process. Based on that analysis, buffers were identified to directly protect habitats and reduce the potential for bird strikes to a discountable level (figure 5.5.3-1 in the PBA). As discussed above, a 1.5 mi buffer was determined to be adequate to protect both the piping plover and its habitat on the Missouri River system and reservoirs adjacent to the Coteau. However, inter-habitat movements of piping plovers occur between the Missouri River and the alkali wetlands in the Coteau, and between alkali wetlands and complexes, but such movements are less well understood. Based on discussions with plover experts and as addressed in Chapter 5.5.3.1 of the PBA, the Program requires a 3.0 mi “no build” buffer for alkali wetlands where nesting has been documented and for all designated critical habitat. Wind energy developments between buffered wetlands is also not allowed when the distance between the outer limits of the buffer zone is less than 3.0 mi in order to protect piping plover movements within and between of alkali wetlands complexes. Thus, an additional 3.0 mi inter-distance buffer (total of up to a 9.0 mi “no build” buffer) was established to further reduce the exposure risk for piping plovers.

Ongoing studies by the U.S. Geological Survey on movements of piping plover between alkali wetlands and between the Missouri River and alkali wetlands may provide new information in the future and result in modifications to the required conservation measures in the PBA. As new information is gained through research or post-construction monitoring, adaptive management may warrant revisions to the avoidance measures in the PBA.

Thus, based on the rationale summarized above, and with implementation of the BMPs and the species-specific avoidance measures identified in the PBA, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the interior least tern and piping plover, and will have “no effect” on designated critical habitat for the piping plover. With these commitments and requirements, the Service has concluded that the potential effects of the Program on piping plovers and least terns are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determinations.

Sprague’s Pipit

Sprague’s pipits use grasslands of intermediate height, with sparse to intermediate vegetation density. They will use non-native vegetation such as crested wheatgrass but are significantly more abundant in native prairie grassland. Researchers believe that Sprague’s pipits need tracts approximately 160 ac or larger in mixed grass prairie to set up a breeding territory. However,

the species also appears to choose habitat at a landscape scale. Fragmentation of habitat from access roads, substations, and turbine placement in grassland communities is likely the greatest impact on Sprague's pipits.

Thus, to protect this species, pre-construction evaluations with the Service and/or surveys for the identification of suitable or occupied habitat are required. If the species is detected in the project area, the installation of meteorological towers, turbines, access roads, and transmission lines within 1,000 ft of occupied native prairie tracts 160 ac or larger must be avoided. Additional minimization measures require that turbine layouts be designed to minimize the fragmentation of native prairie habitats suitable for Sprague's pipit.

Thus, with implementation of the BMPs and the species-specific avoidance and minimization measures, Western and Refuges have determined that implementation of the proposed action "may affect, but is not likely to adversely affect" the Sprague's pipit. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the Sprague's pipit are either insignificant or discountable and we therefore **concur** with your "may affect, not likely to adversely affect" conference determination.

Whooping Crane and Designated Critical Habitat

The only self-sustaining wild population of the whooping crane migrates annually in a north-south corridor from its coastal wintering grounds at the Aransas National Wildlife Refuge in Texas to its summer breeding grounds at Wood-Buffalo National Park in Canada. The whooping crane migration corridor (with 95 percent of the documented sightings) within Western's UGP Region is approximately 200 mi wide through the center of Nebraska, South Dakota, and North Dakota, but also includes a small portion of northeast Montana. During the 2,400 mi migration, whooping cranes may use stopover habitat 7-9 times during a 2-4 week period each spring and fall. They migrate in small flocks of a few birds or in mixed flocks with sandhill cranes (*Grus Canadensis*).

Potentially suitable stopover habitat is difficult to define but generally tends to include wetlands with areas of shallow water without visual obstructions (i.e., high or dense vegetation) and submerged sandbars in wide, unobstructed river channels that are isolated from human disturbance. Other than designated critical habitat on the Platte River in Nebraska, and important habitat on the Niobrara River, no other known traditional stopover habitat has been identified in Western's UGP Region.

Any wind energy development within the migratory corridor could theoretically pose a risk to Whooping cranes through degradation or loss of wetland and foraging habitat, direct mortality of cranes through collisions with turbine blades, and collisions with overhead power lines that connect wind energy projects to the transmission system (collector lines are typically buried and, in such cases, would pose no collision mortality risk). Therefore, identifying and avoiding known or potential stopover habitat and reducing the risk of direct mortality through conservation measures was included in the Program.

To reduce the risk of collisions to whooping cranes, the Service typically recommends transmission lines within 1 mi of potentially suitable stopover habitat be marked with avian flight diverters. This approach to line marking is expected to increase the visibility of the tap line to enhance visual cues for migrating whooping cranes. Western agrees the 1 mi buffer of suitable stopover habitat is appropriate in most cases for line marking and wind energy development. However, for designated critical habitat in Nebraska along the Platte River and other important stopover habitat on the Niobrara River that support large concentrations of cranes, there may be a higher risk of direct mortality. To provide additional protection to these areas, the Program requires a 5 mi “no build” buffer encompassing these traditional use areas of the species. In addition to buffer zones and line marking, experience from intensive monitoring at wind projects in North and South Dakota since 2010 show the risk of collisions can be further reduced with a robust whooping crane monitoring program and shut-down protocol during the spring and fall migration period. Based on coordination with the Service, specific cases may arise where wetlands with high biological value are identified as potentially suitable stopover habitat within a 0.5 mi of a turbine or other project facility. When negatively affected, these wetlands may require compensatory mitigation in habitat mitigation planning for whooping cranes.

Studies indicate that neither whooping nor sandhill cranes are overly susceptible to collisions with turbines as hundreds of thousands of sandhill cranes and a few hundred whoopers migrate through the Great Plains annually and no strikes associated with wind energy developments have been documented to date during migration. However, whooping cranes are most vulnerable to collisions with turbines or transmission lines while descending to or ascending from stopover habitat or movements in-between areas while foraging in agricultural fields during stopovers. To address the strike risk during low altitude flights, collector lines and transmission lines are required to be buried or marked and meteorological towers are required to be self-supporting lattice structures or the guy wires on existing meteorological towers will be fitted with avian flight diverters. The following additional avoidance and minimization measures for the whooping crane also are included in the Program.

Within the migration corridor that encompasses 95 percent of the historic whooping crane sightings, project applicants will be required to complete preconstruction evaluations with the Service and/or surveys to identify the presence of designated critical habitat for the whooping crane (currently limited to Nebraska) within 5 mi of project footprints and the presence of suitable migratory stopover habitat for the whooping crane within 1 mi of the project footprint. Based on that information, if the whooping crane, its critical habitat, or suitable migratory stopover habitat occurs near the project area as identified above, the following species-specific avoidance measures would be required:

- Do not site turbines, transmission lines, access roads, or other project facilities within 1 mi of wetlands that provide suitable stopover habitat or within 5 mi of the Platte or Niobrara Rivers in Nebraska.

- Do not site turbines, transmission lines, access roads, or other project facilities within 5 mi of designated critical habitat.

Although the identification of designated critical habitat and suitable migratory stopover habitat and adjustment of project plans to avoid such areas will serve as the preferred means of avoiding or minimizing impacts on whooping cranes, a number of additional minimization measures specifically intended to reduce the potential for adverse effects on whooping cranes would also be required and are listed below.

- Place approved bird flight diverters on the top static wire on any new or upgraded overhead collector and transmission lines located within 1 mi of suitable stopover habitat.
- Develop a procedure for minimizing the risk of whooping crane collisions with turbines during operations with the use of observers at the project site and surrounding area for whooping cranes during spring and fall migration periods throughout the operational life of the project (or as determined by the local Service field office) and shutting down turbines and/or construction activities within 2 mi of whooping crane sightings. Monitoring can be done by existing onsite personnel trained in whooping crane identification. Specific requirements of the monitoring and shutdown plan will be determined during preconstruction evaluations. Sightings of whooping cranes in the vicinity of projects will be reported to the appropriate Service field office immediately.
- Instruct workers in the identification and reporting of sandhill and whooping cranes, and to avoid disturbance of cranes present near project areas.
- Within the portion of the whooping crane migration corridor that encompasses 95 percent of historic sightings, the acreage of wetlands that are suitable migratory stopover habitat located within a 0.5 mi radius of turbines may be mitigated based upon site-specific evaluations.

Thus, with implementation of the BMPs and the species-specific avoidance and minimization measures, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the whooping crane and will have “no effect” on designated critical habitat of the whooping crane. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the whooping crane are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determination.

Rufa Red Knot

The rufa red knot is a shorebird that migrates annually long distances from wintering habitat in South and Central America to breeding grounds in the Arctic, while stopping at a few key quality habitats along the way including the Delaware Bay in New Jersey along the Atlantic Coast. Here they stop for 10-14 days to quickly replenish energy reserves for their migration journey by

consuming small horseshoe crabs and their eggs, mussels, invertebrates, crustaceans, and snails. Although the Gulf and Atlantic coasts are particularly attractive to the red knot, migration is widespread and is known to extend westward in the interior United States to the front range of the Rocky Mountains. Western's UGP Region is located along the western edge of the migration pathway. Red knots migrate in small groups up to 10 birds and are considered rare transients in the UGP Region. Little is known of stopover sites in the interior U.S. except for the Great Lakes area. However, as a migratory shorebird, red knots utilizing any stopover sites in the UGP Region would likely select wetland habitats similar to those selected by other shorebirds such as the interior least tern and piping plover. Most important would be alkali wetlands in the Prairie Coteau region of ND and northeast Montana. Researchers indicate that migrating red knots generally fly between 1,000 and 13,000 feet in altitude. In the final rule to list the red knot as a threatened species, the Service indicated they do not expect wind energy development to cause significant direct habitat loss or degradation or displacement of red knots from otherwise suitable habitats if facilities are not constructed at key stopover or wintering habitats.

Due to the rarity and transient nature of the red knot in the UGP Region, conservation measures identified for other shorebirds evaluated in the PBA (i.e., interior least tern and piping plover) would also afford protection to the red knot. Therefore, no new measures have been identified for the red knot. However, developers will be required to conduct preconstruction evaluations and coordinate with the local Service field office regarding new species information or conservation measures.

Therefore, with the overlap of the range of the shorebird species addressed in the PBA and the implementation of the BMPs and the avoidance measures for the interior least tern and the piping plover, Western and Refuges have determined that implementation of the proposed action "may affect, but is not likely to adversely affect" the rufa red knot. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the rufa red knot are either insignificant or discountable and we therefore **concur** with your "may affect, not likely to adversely affect" determination.

Black-footed Ferret, Canada Lynx and Designated Critical Habitat, Gray Wolf, Grizzly Bear, Indiana Bat, Northern Long-eared Bat

Black-footed Ferret

The black-footed ferret is one of the rarest mammals on earth and is almost entirely dependent on prairie dog colonies for food, denning and breeding habitat, and its survival. Although once common in the UGP Region, only remnant prairie dog colonies remain and continue to be threatened by poisoning, agricultural conversion of habitat, and sylvatic plague. Following the discovery of a wild population of the black-footed ferret in Meeteetsee, Wyoming in 1981 and the subsequent development of a captive rearing program, 11 reintroductions of non-essential experimental populations have occurred throughout the historic range of the ferret. Additional reintroductions using section 10(a)(1)(A) recovery permits and Safe Harbor Agreements have also occurred. Within Western's UGP Region, the black-footed ferret currently is known to

occur or could occur in Montana, North Dakota, South Dakota and Nebraska. Recently, the Service's North Dakota Field Office reported the expansion of one of the reintroduced South Dakota ferret populations onto the Standing Rock Indian Reservation in North Dakota.

Wind energy potential at habitats for these species in the UGP Region may be greater than surrounding areas due to the open, relatively flat areas selected by prairie dogs. If not properly sited, negative impacts of wind energy development on black-footed ferrets could occur in areas where prairie dogs are known to occur. Such impacts could result from loss of habitat and prey, predation by larger carnivores, disease transport, and direct mortality associated with project construction and operations (e.g., vehicle collisions). To date, no adverse effects of wind energy projects on the black-footed ferret have been documented.

However, if during the preconstruction evaluations the Service determines that a significant active prairie dog complex may occur in the project area within or adjacent to a black-footed ferret reintroduction site, a number of additional conservation measures specifically intended to reduce the potential for adverse effects on the black-footed ferret would also be required.

Two avoidance measures were identified in the PBA to address sites of known or potential occurrence of the black-footed ferret. For prairie dog colonies where black-footed ferrets have been reintroduced or are known to occur, project proponents must avoid siting turbines, transmission lines, access roads, or other project facilities on these colonies. For other prairie dog colonies that project proponents cannot avoid and within which the Service has indicated ferrets could occur, preconstruction surveys are required in areas of suitable habitat where the project may impact prairie dog colonies.

Additional minimization measures for sites where ferrets are not known to occur include coordination with the Service regarding observations, surveys, and poisoning. They include the following:

- Report observations of ferrets, their sign, or carcasses on the project area to the Service within 24 hours and work with the Service's black-footed ferret coordinator or local Service Ecological Services Office to determine whether additional measures need to be undertaken.
- Do not commence construction activities until any needed ferret surveys are completed and reviewed by the local Ecological Services Office.
- Ensure that prairie dog colonies are not poisoned or compromised due to wind development on the site. If black-footed ferrets have been or are being considered for reintroduction at a location where wind development is proposed, project proponents will partner with the local ferret recovery team to exchange information and provide assistance or management as may be appropriate at that site.

Thus, with implementation of the general BMPs and the species-specific avoidance measure identified above, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the black-footed ferret. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the black-footed ferret are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determination.

Canada Lynx and Designated Critical Habitat

Within Western’s UGP Region the Canada lynx has been reported only in the mixed deciduous and coniferous forests of the boreal and montane regions of western Montana and northern Minnesota. Less than one percent of predicted suitable habitat for the species in the UGP Region is found within 25 mi of Western’s substations or transmission lines. Development near this area is unlikely because of the lack of suitable wind conditions conducive for wind energy development. Regardless, project proponents would have to conduct preconstruction evaluations and/or surveys with the Service for any counties in which the lynx has been reported, implement the general BMPs, and totally avoid (do not site turbines, transmission lines, access roads, or any project facilities) all Canada lynx core habitat as identified in the 2005 Recovery Outline and designated critical habitat.

Thus, through this coordination with the Service and avoidance of high-elevation coniferous habitat identified as core Canada lynx habitat or designated critical habitat, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the Canada lynx, and will have “no effect” on designated critical habitat. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the Canada lynx are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determination.

Gray Wolf

In February 2015 the Service, in compliance with court orders to reinstate regulatory protections for the gray wolf, issued a final rule as it relates to gray wolves in the Western Great Lakes population. As a result, gray wolves now have an endangered status in all of North Dakota, South Dakota, and Nebraska, and the northern half of Iowa; and threatened status in Minnesota. The rule had no effect on the status of gray wolves in Montana where the species is not listed. Although wolves utilize a wide range of habitats including temperate forests, mountains, tundra, and grasslands, they tend to prefer more isolated areas and avoid human development and interaction. Occasional individual transient wolves pass through the UGP region and wolf/vehicle collisions could occur; however, no wolf packs are known to currently inhabit any of these areas. As part of the preconstruction evaluations, project proponents must coordinate with the local Service office to document if any habitats have become occupied by the gray wolf. If occupied habitat would co-occur with a prospective wind energy development, these areas must be avoided and no turbines, transmission lines, access roads, or other project facilities can be sited within these areas.

Thus, with implementation of the general BMPs and the species-specific avoidance measure identified above, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the gray wolf. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the gray wolf are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determination.

Grizzly Bear

The distribution of the grizzly bear is primarily associated with recovery zone areas in the northwest part of the United States. In the UGP Region, the grizzly has been reported from only 14 counties in western and southwestern Montana. All grizzly bear recovery zones and Primary Recovery Areas are greater than 25 mi from Western’s substations and transmission lines. Similar to the Canada lynx, less than one percent of predicted suitable habitat for the grizzly bear in the UGP Region is found within 25 mi of Western’s substations or transmission lines. This area is identified in the draft Northern Continental Divide Ecosystem Conservation Strategy as within Management Zone 3 where not enough suitable habitat exists for long term survival and occupancy, but where the bears sometimes use riparian areas for travel corridors and foraging. The conservation strategy in this area focuses on conflict response and resolution. Although adverse effects to the grizzly are unlikely due to lack of suitable habitat in the vicinity of areas that might be best suitable for wind, conservation measures are warranted. As with all species, the general BMPs are applicable. In addition, to minimize conflicts with grizzly bears, a measure to secure all food, trash, and other attractants in bear-proof storage containers in habitats occupied by grizzly bears also is required. Furthermore, if the preconstruction evaluations determine the grizzly or its habitat occurs within the proposed project area, the following avoidance measure is required: do not site turbines, power lines, access roads, or other project facilities within 0.5 mi of locations known to be occupied by grizzly bears.

Based on information in the Ecosystem Conservation Strategy and implementation of the BMPs and the avoidance measure, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the grizzly bear. With these commitments and requirements, the Service has concluded that the potential effects of the Program on grizzly bears are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determination.

Indiana Bat

The Indiana bat is a long distance migrant that hibernates in caves and mines and summers in wooded areas of the East-Central United States. Within the UGP region, the Indiana bat is known to occur in only five counties in western Iowa within significant patches of forested habitat. Loss of forested habitat to urbanization and development and commercialization of caves has been a major factor in the reductions of Indiana bat populations in the past 40 years; however, some experts believe white nose-syndrome (WNS), caused by the fungus

(*Pseudogymnoascus destructans*), is currently the largest threat to the species. However, the growing wind energy development in the United States presents an increasing threat to bat populations as a result of flying bats colliding with wind turbines when foraging, staging, or migrating. To date, seven Indiana bat fatalities have been reported in the published and unpublished literature, but none have occurred in the UGP region.

For the Indiana bat, protection of summer habitat and winter hibernacula can be accomplished by the avoidance of specific habitats and utilizing adequate “no build” buffers during the siting and location of wind turbines. Relative to local movements and migration, current studies have shown that the risk of collisions with turbines during the spring and fall migration or the summer periods can be significantly reduced through changes in operational parameters of the turbines (i.e., cut-in speeds and feathering of blades) at certain seasons of the year and time of day as related to bat behavior.

Western has adopted BMPs from the Wind Turbine Guidelines Advisory Committee, and other conservation measures identified in the Service’s Indiana Bat Hibernacula Survey Protocol and the 2014 Rangewide Indiana Bat Summer Survey Guidelines as cited in the PBA to achieve protection to the Indiana bat and its habitat. These practices include, but are not limited to: avoidance of high-use areas where bats are vulnerable to encountering turbines (e.g., areas near hibernacula) and areas that provide connectivity between roosting, maternal, and foraging areas. The documents suggest that suitable Indiana bat habitats can be protected by “no build” buffers of 20 mi from hibernacula and 1000 ft from foraging and roosting habitat (edges along forested areas with dense forest canopy, riparian areas, and small wetlands). The avoidance measure in the PBA emphasizes these buffer zones. In accordance with the BMPs in Table 4.5-1, and consistent with the 2012 U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines and development and implementation of a Bird and Bat Conservation Strategy (BBCS) cited in the PBA, wind developers conduct a least one year of preconstruction surveys designed to reliably detect the presence of Indiana bats.

Literature, as cited in the PBA, suggests that all species of bat fatality rates are primarily influenced by the siting or location of turbines and bat behavior, but that wind speed and time of day also are important factors. Most fatalities have been documented to occur during the fall migration when bats tend to congregate, swarm, and breed before entering winter hibernacula. To summarize in general, bats tend to fly at lower wind speeds during the dusk, night, and dawn periods. The PBA indicates that the majority of bat activity (95 – 99.9 percent) occurs at wind speeds below 16.4 and 21.3 ft/sec (sec) and bat mortality can be reduced significantly by increasing the cut-in speed for production of energy above the manufacturers set cut-in speed (typically 11.5–13.1 ft/sec) and feathering the blades so that rotor blades do not rotate at wind speeds below the cut-in speed. Thus, the lead federal agencies propose, in addition to the habitat “no build” buffers of 20 mi for hibernacula and 1000 ft for foraging and roosting habitat, to require the use of cut-in speeds of 22.6 ft/sec and feathering of blades during the fall migration period in order to reduce the risk of collision for the Indiana bat to an insignificant or discountable level. Under certain conditions, this minimization measure also would be implemented during the spring migration period as well.

In summary, the Agencies propose the following specific avoidance and minimization measures for the Indiana Bat:

Throughout the range of the Indiana bat within the UGP (southern Iowa) the following species-specific avoidance measure would be required (table 5-1):

- Do not site turbines in areas within 20 mi of hibernacula used by Indiana bats or within 1000 ft of known or presumed occupied foraging and roosting habitat (edges along forested areas with dense forest canopy, riparian areas and small wetlands). Habitat evaluations should be coordinated with the local Service (Ecological Services) Office prior to or during turbine site planning.

A number of additional minimization measures specifically intended to reduce the potential for adverse effects on the Indiana bat would also be required. Additional species-specific minimization measures would include the following:

- A robust survey developed and implemented as part of the BBCS program, consistent with the 2012 U.S. Fish and Wildlife Service Land-based Wind Energy Guidelines and approved by the Service during the preconstruction evaluation and survey stage, will be implemented for a minimum of 1 year prior to construction.
- Increase turbine cut-in speeds to 22.6 ft/sec or greater from 0.5 hour before sunset to 0.5 hour after sunrise during the fall migration period (generally August 15–October 15, but consult with the local Service (Ecological Services) office for the established migration dates) to avoid mortality to the Indiana bat. Use of feathering (where blades are motionless or nearly motionless) below the cut-in speed of 22.6 ft/sec will also be implemented at night during the fall migration season to eliminate turbine rotation and avoid mortality of migrating Indiana bats. Increased cut-in speed and feathering can be suspended between 0.5 hour after sunrise and 0.5 hour before sunset.
- In the event that preconstruction surveys or post-construction monitoring indicate species occurrence or occupancy of habitat adjacent to the project area, the higher turbine cut-in speeds described above will be required during the spring bat migration season to offset the increased risk for injury or mortality. The monitoring must be rigorous enough to meet standards acceptable to the local Service (Ecological Services) office.
- Immediately report observations of Indiana bat mortality to the appropriate Service office.

Western believes that implementation of the BMPs and other conservation measures (avoidance and minimization) for wind energy development in the UGP Region is expected to reduce the risk of injury or mortality to the Indiana bat to an insignificant or discountable level. These

conservation measures include the avoidance of hibernacula and potentially suitable summer habitat in Iowa (e.g., sites that are in close proximity to forested areas and water sources), feathering of turbine blades below cut-in speeds, and increasing cut-in speeds above the manufacturers' set speed between dusk and dawn during migration to reduce mortality for the Indiana bat.

Thus, with implementation of the BMPs and the species-specific avoidance and minimization measures identified above and in the PBA, Western and Refuges have determined that implementation of the proposed action "may affect, but is not likely to adversely affect" the Indiana bat. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the Indiana bat are either insignificant or discountable and we therefore **concur** with your "may affect, not likely to adversely affect" determination.

Northern long-eared Bat

The threatened Northern long-eared bat (NLEB) has a large range in the East-Central United States and Canada. The western edge of the species range extends throughout much of Western's UGP region but occurrence records are sparse in the region, partly because of limited mature forested habitats within a landscape dominated by grassland and agricultural communities. In addition, no comprehensive range-wide surveys have been conducted in the UGP region for this species, but populations are considered rare or less common in this area of its range. Consequently, uncertainties exist relative to habitat, population levels, migration corridors, and other parameters.

Research indicates the species has a strong fidelity to mature wooded habitats and suitable habitat consists of a wide variety of wooded habitats where they roost, forage, and travel, and if forested travel corridors exist, may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. The NLEB is considered a short-distance migrant, typically only traveling 40 to 50 mi from winter hibernacula. When the species migrates from wintering caves to summer habitat or commute from roosts to feeding grounds, individuals generally move through forested habitat corridors in the landscape, presumably because it is energetically more efficient (the trees reduce wind speed) and because it may afford ready access to escape cover and concealment from predators. Foraging occurs above the understory but within the canopy of the forest and at heights (3 to 10 ft) above the ground. To date, 36 NLEB bat fatalities due to wind turbines have been reported in the published and unpublished literature, but none have occurred in the UGP region.

Similar to Indiana bats, the Service and many experts believe white nose-syndrome is currently the primary threat to the continued existence of the NLEB. However, the species is clearly vulnerable to increase lethal risks due to the anticipated increased exposure to wind turbines during foraging, staging, or migration from a growing/expanding wind energy industry in the United States.

Like the Indiana bat, protection of summer habitat and winter hibernacula for the NLEB also can be accomplished by the avoidance of specific habitats and utilizing adequate buffers during the siting and location of wind turbines. Relative to local movements and migration, current studies have shown that the risk of collisions with turbines during the spring and fall migration or the summer periods can be significantly reduced through changes in operational parameters of the turbines (i.e., cut-in speeds and feathering of blades) at certain seasons of the year and time of day as related to bat behavior.

Thus, action Agencies have adopted a similar approach to conservation measures for the NLEB as they have for the Indiana bat. Because of similarities between the two species, the proposed Program also includes BMPs from the Wind Turbine Guidelines Advisory Committee. However, due to behavioral and habitat differences, habitat avoidance measures included in the PBA for the NLEB differed from those designed for the Indiana bat.

The PBA presented information that suitable NLEB habitats can be protected (avoided) with buffers of 5 mi from hibernacula and 0.5 mi from foraging, roosting, and commuting habitat. As a necessary first step, wind developers are required to conduct a minimum of one year of preconstruction surveys for the presence of NLEBs. This requirement is consistent with the 2012 U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines and development and implementation of a BBCS.

Reducing the potential for collisions through the use of cut-in speeds and feathering, as well as siting with the intent to avoid habitat avoidance, are pertinent to the NLEB as well. However, the UGP region is on the western edge of the NLEB range. In the central and western portions of the UGP region, the abundance and distribution of suitable habitat (winter and summer) is highly fragmented and dispersed within wide expanses of agricultural and grassland communities. However, suitable (forest) habitat is more abundant in the eastern portion of the UGP. Thus, it is reasonable to expect that population densities are lower in the western areas compared to the eastern extent of the UGP and accordingly, the species is at higher risk of exposure to wind energy developments in the eastern portion of the UGP region. Due to a higher prevalence of forest habitat, the action Agencies elected to establish the eastern portion of the UGP within Minnesota and Iowa as a higher risk area for NLEB and included more stringent measures to ensure protection compared to the more open plains in Montana, North Dakota, South Dakota, and eastern Nebraska which are dominated by grassland and agricultural communities. Given the difference in the relative risk for the NLEB, a step-down approach to assessing risk is proposed to determine if cut-in speeds and feathering are required. Thus, implementation of cut-in speeds and feathering on all wind energy projects within the range of the NLEB will not be necessarily required to ensure avoidance of lethal impacts. The decision to require the use of cut-in speeds and feathering will be determined by the action agencies and the local Service (Ecological Services) Office personnel based upon consideration of the following site specific information: a local and landscape-scale evaluation of winter and summer habitat; survey data; distance to known NLEB occurrences including distance to known hibernacula, and suspected migration patterns. The minimization measures in the PBA for the NLEB emphasize, in detail, the rationale and requirements for cut-in speeds and feathering.

The following specific avoidance and minimization measures for the NLEB include:

Throughout the range of the northern long-eared bat within the UGP Region, the following species-specific avoidance measures would be required (table 5-1):

- Avoid all suitable habitat (do not site turbines) in areas within 5 mi of hibernacula used by northern long-eared bats or within 0.5 mi of known or presumed occupied foraging, roosting, and commuting habitat. Habitat evaluations should be coordinated with the local Service (Ecological Services) Office prior to or during turbine site planning.

A number of additional minimization measures specifically intended to reduce the potential for adverse effects on the northern long-eared bat would also be required. Additional species-specific minimization measures would include the following:

- A robust survey developed and implemented as part of the BBCS program, consistent with the 2012 U.S. Fish and Wildlife Service Wind Energy Guidelines and approved by the Service during the preconstruction evaluation and survey stage, will be implemented for a minimum of 1 year preconstruction.
- The need for implementation of cut-in speeds higher than manufacturers' recommendations during the fall bat migration period will be based on the following site-specific, project-by-project risk assessments by the local Service (Ecological Services) office:
 - During the preconstruction evaluation and survey stage, and based on a collision risk assessment of location of the project, proximity to potential summer habitat, distance to known occurrences, distance to known hibernacula, and suspected migration patterns, the applicant will coordinate with Western, Refuges, and the local Service (Ecological Services) office to determine if the risk of injury or mortality is sufficiently high to warrant higher cut-in speeds.
 - In the event that preconstruction surveys indicate species occurrence or occupancy of habitat adjacent to the project area, higher turbine cut-in speeds will be required to offset the increased risk for injury or mortality. The monitoring must be rigorous enough to meet standards acceptable to the local Service (Ecological Services) office.
 - When warranted by either of the two aforementioned conditions for specific projects in the western and central areas of the UGP Region, turbine cut-in speeds will be increased to 16.4 ft/sec or greater from 0.5 hour before sunset to 0.5 hour after sunrise during the fall migration period (generally August 15–October 15, but consult with the Service for the established migration dates in each State) for

northern long-eared bats. In the eastern fringe of the UGP Region, a minimum cut-in speed of 22.6 ft/sec from 0.5 hour before sunset to 0.5 hour after sunrise during the fall migration period (generally August 15–October 15, but consult with the Service for the established migration dates in each State) for northern long-eared bats is required. For administrative purposes as well as an implementation consistency in meeting these requirements, areas within the UGP Region that occur east of the western borders of Minnesota and Iowa will be used as the line of demarcation where the minimum cut-in speed of 22.6 ft/sec will be used. Use of feathering (where blades are motionless or nearly motionless) below the respective cut-in speed of 16.4 ft/sec or 22.6 ft/sec will also be implemented at night during the fall migration season to eliminate turbine rotation and avoid mortality of migrating northern long-eared bats. Increased cut-in speed and feathering can be suspended from 0.5 hour after sunrise to 0.5 hour before sunset.

- Immediately report observations of northern long-eared bat mortality to the appropriate Service office.

In summary, current data indicates the northern long-eared bat occurs at very low to moderate densities in a clustered, somewhat scattered manner closely aligned with mature forested habitat throughout the UGP Region, with generally increasing densities toward the eastern extent of the UGP Region. The PBA highlights the need for a robust monitoring program (i.e., BBCS), coupled with a step-down risk assessment and an adaptive management approach for the NLEB to help direct the appropriate selection of conservation measures. This approach will assess the need for increased cut-in speeds for the fall migration period based on site-specific project location, available scientific data, monitoring results, and analysis of risk. This step-down approach is reflected in the Avoidance and Minimization Measures.

Although WNS poses the greatest threat to the species, collisions with wind turbines are a risk factor, although no mortality has been reported in the UGP region. Protection of summer habitat for foraging, roosting, and maternity sites, as well as winter hibernacula, is very important to the conservation of the species. Protection of these summer and winter habitats can be addressed readily through buffer zone conservation measures. Suspected northern long-eared bat habitat is not ubiquitous throughout the UGP Region. Summer habitat appears to be strongly correlated with mature forested areas in the floodplains of major rivers like the Missouri River or prairie river drainages west of the Missouri River with a cottonwood component, whereas winter hibernacula locations are less documented, but expected to be within short migration distances of less than 50 mi. When warranted, the risk of collisions can be reduced to an insignificant or discountable level by feathering of turbine blades below cut-in speeds and increasing cut-in speeds to 16.4 ft/sec during migration in the western and central portions of the UGP Region and 22.6 ft/sec in the eastern portion of the UGP Region within the States of Minnesota and Iowa.

Western and the Service acknowledge that some uncertainties exist relative to the recently listed NLEB, but believes the currently identified conservation measures (BMPs, avoidance, and minimization measures) reduce the level of risk of collisions with turbines, and thus injury or

mortality, to an insignificant or discountable level. Research and the required post-construction monitoring should provide new information in the future which, through adaptive management, could warrant modifications to the required conservation measures in the PBA.

Thus, based on the rationale summarized above, and with implementation of the BMPs and the species-specific avoidance and minimization measures identified above and in the PBA, Western and Refuges have determined that implementation of the proposed action “may affect, but is not likely to adversely affect” the NLEB. With these commitments and requirements, the Service has concluded that the potential effects of the Program on the Northern long-eared bat are either insignificant or discountable and we therefore **concur** with your “may affect, not likely to adversely affect” determination.

Summary

In accordance with section 7 of the Act, Western requested Service concurrence with its determination for listed species that the construction and operation of the Project “may affect, but is not likely to adversely affect” the Eastern prairie fringed orchid, Mead’s milkweed, prairie bush clover, Ute ladies’-tresses, Western prairie fringed orchid, American burying beetle, Dakota skipper, Poweshiek skipperling, Salt Creek tiger beetle, bull trout, Topeka shiner, Interior least tern, piping plover, rufa red knot, whooping crane, black-footed ferret, Canada lynx, gray wolf, grizzly bear, Indiana bat, and Northern long-eared bat. Western also requested conference concurrence with its determination that the Project “may affect, but is not likely to adversely affect” the candidate Eastern Massasauga rattlesnake, candidate greater sage-grouse, and candidate Sprague’s pipit.

Based upon environmental review and evaluation criteria in the proposed Program, the analysis of potential effects to each species, adoption of the applicable conservation measures (BMPs and associated avoidance and minimization measures) identified in the PBA, and our discussion above on each species, the Service has concluded that the effects to these species are either insignificant or discountable. Thus, the Service **concurs** with your determinations of effects to species and critical habitat addressed in the PBA.

From a practical perspective, the Service’s State Ecological Services Field Office will be the appropriate office for project specific coordination for pre-construction evaluations; survey information; review and verification of project proponents’ compliance with the established BMPs; and completion of the avoidance and minimization measures on the Project and Species Consistency Evaluation Forms. The Project and Species Consistency Evaluation Forms will be used to verify that site specific analyses are consistent with the assumptions and analyses upon which this pre-emptive letter of concurrence is predicated.

Pursuant to this pre-emptive letter of concurrence, Western and Refuges now have available a standing letter of concurrence from the Service for future wind energy projects that are deemed consistent with the conditions set forth in this programmatic consultation as described in the PBA. The consistency determination will be made jointly on a case-by-case, project-specific

basis by the responsible federal agency and the Service's Ecological Services Field Office in each State.

Further, this letter constitutes the Service's Conference Report and conference concurrence on the candidate species and proposed critical habitat described in the PBA, and concludes the conference procedures. If any of the candidate species or proposed critical habitat addressed in the PBA are listed or designated in the future, and no changes have occurred in the programmatic document, the Service recommends Western and Refuges submit a request to the Service (Ecological Services) to adopt this conference report as a concurrence of effects determination for the newly listed species or critical habitat to insure Western's compliance with the interagency coordination procedures pursuant to Section 7 of the Act.

The PBA and your May 18 letter also include "no effect" determinations for the candidate whitebark pine, and endangered Higgins eye, scaleshell mussel, and pallid sturgeon. The PBA also states "no effect" on proposed critical habitat for the Dakota skipper and Poweshiek skipperling, and "no effect" on the designated critical habitat for the Salt Creek tiger beetle, bull trout, Topeka shiner, piping plover, whooping crane, and Canada lynx. There is no requirement under the implementing regulations of the Act (50 CFR Part 402) for action agencies to receive Service concurrence with "no effect" determinations; therefore, the responsibility for "no effect" determinations remains with the responsible federal agencies. Accordingly, we recommend Western and Refuges retain the documentation and analyses for these species in your respective decisional records for this federal action.

The Service's concurrence is based on the information contained within the April 2015 PBA. Pursuant to the implementing regulations of the Act (50 CFR 402.13), this letter concludes informal consultation on this action and suffices for inter-agency and intra-agency consultation on listed species and both inter-agency and intra-agency consultation on candidate and proposed species. This action will require re-initiation if: (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or (3) a new species is listed or critical habitat is designated that may be affected by this project.

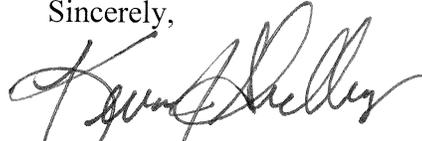
Both the Service and Western recognize that implementation of the procedures and requirements described in the PBA may be subject to change as additional information comes to light on species occurrence, behavior, or risks, or if additional species are listed under the Act. For this reason, the Service expects the adaptive management procedures described in Section 2.1 (Project Description) in the PBA will serve as a vital component of the Program and are consistent with the underlying principles of the Service's Strategic Habitat Conservation framework. The success of this Program will likely be dependent upon information from outcome-based monitoring such as post-construction mortality monitoring activities as well as assumption-driven research information as it comes available to continually provide an important feedback loop to reduce uncertainty as well as update and validate the assumptions upon which this letter of concurrence is predicated.

Mr. Matt Marsh, Mr. Will Meeks, PhD
Upper Great Plains Programmatic Wind Energy Consultation

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The Service appreciates Western's and Refuge's efforts to insure the conservation of trust species as part of our joint responsibilities under the Act. We believe the implementation of the programmatic wind energy program described herein should achieve conservation delivery consistent with Strategic Habitat Conservation particularly for threatened and endangered species. If further information is needed, please feel free to contact me at 701-355-8512.

Sincerely,



Kevin J. Shelley
North Dakota State Supervisor
Ecological Services

cc: Mr. Michael Thabault, Ecological Services, Region 6
Ms. Lynn Lewis, Ecological Services, Region 3
Mr. Charlie Blair, Refuges, Region 3
Mr. Scott Larson, North Dakota/South Dakota Ecological Services
Ms. Jodi Bush, Montana Ecological Services
Ms. Eliza Hines, Nebraska Ecological Services
Mr. Clint Riley, Migratory Birds, Region 6
Mr. Tom Cooper, Migratory Birds, Region 3